

## ABSTRACT

The process which comprises causing cells or a culture of a microorganism having the activity to introduce hydroxy 5 into the [n-5]-position (n is an even number of 10 or more) and hydrogen into the [n-6]-position of a straight-chain fatty acid having n carbon atoms wherein at least the [n-6]-position is a double bond to make the [n-6]-position a single bond or a treated matter thereof to act on a straight-chain fatty acid 10 having n carbon atoms wherein at least the [n-6]-position is a double bond or a composition containing the fatty acid to form an [n-5]-hydroxy fatty acid wherein the [n-6]-position is a single bond, causing cells or a culture of a microorganism having the activity to  $\beta$ -oxidize an [n-5]-hydroxy fatty acid 15 wherein the [n-6]-position is a single bond or a treated matter thereof to act on the formed [n-5]-hydroxy fatty acid, and recovering the formed  $\delta$ -lactones.